

Abstract

A map holding unit holds, in the form of a map, a voltage control amount (Vq_{map}) of the q axis in a case where no demagnetization of a permanent magnet motor occurs. Based on a motor revolution number, namely the number of revolutions of the motor (MRN) provided from a revolution number detection unit, a demagnetized state calculation unit calculates a rotational angular velocity (ω). Then, based on the voltage control amount (Vq_{map}) from the map holding unit, a voltage control amount (Vq) to be controlled that is provided from a PI control unit and the rotational angular velocity (ω), the demagnetized state calculation unit calculates an amount of demagnetization ($P(Vq_{map} - Vq / \omega)$) and outputs, if the amount of demagnetization is greater than a predetermined value, an operation signal (OPE) for controlling the operation of the permanent magnet motor.